

CLAIMS

1. Supply and drive means for an AC plasma panel (1) with memory effect, which comprises :
 - 5 - two parallel plates (2, 3) leaving between them a space (4) containing a discharge gas;
 - a first and at least a second array (Y, Y') of sustain electrodes associated in pairs (P_{gi}) of an electrode (Y_{gi}) of the first array and of an adjacent electrode (Y'_{gi}) of the second array so that the electrodes (Y_{gi} , Y'_{gi}) of the same
 10 pair (P_{gi}) define between them a succession of luminous discharge regions (C_{1-gi} , ..., C_{k-gi} , ..., C_{P-gi}) in the space between the plates;
 - a dielectric layer covering at least one of the said arrays of sustain electrodes in order to provide the memory effect, characterized in that these means comprise:
 15 - at least one transformer (T_g) each comprising a primary circuit (P_g) and a plurality of secondary circuits (S_{gi}) magnetically coupled to the said primary circuit (P_g) and each provided with a high terminal (SH_{gi}) and a low terminal (SB_{gi}) that are intended to be connected, without an intermediate switch, to one of the electrodes of a pair (P_{gi}) of the said panel and to the other, respectively;
 20 - a primary sustain voltage pulse generator at the terminals of the primary circuit or circuits (P_g) of the at least one transformer (T_g), which is designed so that:
 - each secondary circuit (S_{gi}) magnetically coupled to the primary circuit or circuits (P_g) can deliver, between its high terminal (SH_{gi}) and its
 25 low terminal (SB_{gi}), a succession of pulses having alternately high and low plateaus capable of causing, during these plateaus, luminous discharges only in the discharge regions which are located between the electrodes (Y_{gi} , Y'_{gi}) connected to these terminals and which have been preactivated,
 30 - the inductances of the primary circuit or circuits and of the secondary circuits of the transformer(s) (T_g) cooperate so as to recover and re-inject the capacitive energy between the said electrodes (Y_{gi} , Y'_{gi}).

2. Supply and drive means for a plasma panel according to Claim 1, characterized in that they include no other specific inductance for recovering and re-injecting the said capacitive energy than those of the primary circuit(s) and of the secondary circuit(s) of the transformer(s) (T_g).

3. Supply and drive means for a plasma panel according to Claim 1 or 2, characterized in that they comprise, for the purpose of selectively activating or deactivating beforehand at least any one discharge region (C_{k-gi}) of the panel located between the electrodes of a sustain pair (P_{gi}), write or erase means designed to apply a write voltage pulse (V_E) or erase voltage pulse to the secondary circuit (S_{gi}) supplying the said pair of electrodes (P_{gi}).

4. Supply and drive means for a plasma panel according to Claim 3, characterized in that they comprise a plurality of H transformers (T_g) and in that the write or erase means comprise a combination of L line drivers (11), each driver being intended to apply a write voltage pulse (V_E) or erase voltage pulse to a plurality of H secondary circuits (S_{gi}) and being, for this purpose, connected via an output to what is called an intermediate address terminal for addressing a single secondary circuit (S_{gi}) for each of the H transformers (T_g), each address terminal being positioned, in its secondary circuit (S_{gi}), between its high terminal (SH_{gi}) and its low terminal (SB_{gi}), and L corresponding to a number of lines equal to the total number of pairs of electrodes (P_{gi}) of the panel (1) divided by the number H of transformers (T_g).

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5. Supply and drive means for a plasma panel according to Claim 4, characterized in that they furthermore include a write or erase bias pulse generator and means for connecting this generator to the primary circuits (P_g) of the transformers (T_g), which are designed so that the inductances of the primary circuits and of the secondary circuits of the transformers (T_g) cooperate in generating a reverse bias pulse after each bias pulse, so as to obtain a train of write or erase oscillations which is formed from successions of a write or erase bias pulse and of a reverse bias pulse.

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6. Supply and drive means for a plasma panel according to Claim 5, characterized in that the write or erase means are designed so that each write voltage pulse (V_E) or erase voltage pulse applied to any one secondary circuit
 5 (S_{gi}) is applied while a write or erase bias pulse is applied to the primary circuit (P_g) magnetically coupled to the said secondary circuit (S_{gi}).

7. Supply and drive means for a plasma panel according to Claim 6, characterized in that the said write or erase means are designed to apply a
 10 plurality of write voltage pulses (V_E) or erase voltage pulses to various secondary circuits coupled to the same primary circuit during a bias pulse applied to the said primary circuit.

8. Supply and drive means for a plasma panel according to Claim 7,
 15 characterized in that they comprise means for triggering a train of write or erase oscillations in a primary circuit and means for triggering each new train of bias oscillations of another primary circuit (P_g) immediately at the end of the first bias pulse of the previous train of oscillations.

20 9. Image display system, comprising an AC plasma panel (1) with memory effect, which comprises:

- two parallel plates (2, 3) leaving between them a space (4) containing a discharge gas;

- a first and at least a second array (Y, Y') of sustain electrodes
 25 associated in pairs (P_{gi}) of an electrode (Y_{gi}) of the first array and of an adjacent electrode (Y'_{gi}) of the second array so that the electrodes (Y_{gi}, Y'_{gi}) of the same pair (P_{gi}) define between them a succession of luminous discharge regions ($C_{1-gi}, \dots, C_{k-gi}, \dots, C_{P-gi}$) in the space between the plates;

- a dielectric layer covering at least one of the said sustain arrays in order
 30 to provide the memory effect,

characterized in that it comprises supply and drive means according to any one of the preceding claims, which are associated with the said panel (1) so as to be able to supply and drive it.

10. Image display system according to Claim 9, characterized in that it includes no switch between the high terminal (SH_{gi}) and the low terminal (SB_{gi}) of each secondary circuit (S_{gi}) and the electrodes of the pair (P_{gi}) to which these
5 terminals are connected.

11. Image display system according to Claim 10, characterized in that the at least one transformer (T_g) is placed on and fixed to the outer face of one of the said plates.
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12. Image display system according to Claim 11 when it depends on any one of Claims 3 to 9, characterized in that each transformer (T_g) is positioned on the said outer face at a height corresponding to the mean height of the pairs of electrodes (P_{gi}) which are connected to its secondary circuits.